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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/091,234 | 03/04/2002 | Kouichi Takaki | 02111/LH | 7181 |

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| EXAMINER | |
|---|---|
| TRAN, HUAN HUU | |
| **ART UNIT** | **PAPER NUMBER** |
| 2861 | |

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 10/091,234 | Applicant(s) TAKAKI ET AL. | |
|---|---|---|---|
| | Examin r Huan H. Tran | Art Unit 2861 | |

*-- The MAILING DATE of this communication appears on the cover sh et with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 04 March 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Takagi et al. (JP 2000-198235).

With respect to claim 1, Takagi et al. discloses a circuit for generating dot clock pulses for driving a light-emitting element employed in an optical-writing section of an image-forming apparatus, comprising:
a digital-delay dot clock adjusting section (410) to adjust timings of rising-edges or falling-edges of said dot clock pulses generated by changing a selection for a plurality of delayed-clock pulses, which are generated by delaying clock-pulses, outputted from a reference oscillator, in slightly different delay times; and
a controlling section (450)to control a selecting operation for said plurality of delayed clock pulses, performed in said digital-delay dot clock adjusting section, so as to compensate for unevenness of scanning-light amount caused by an optical element employed in said optical-writing section.

With respect to claim 7, Takagi et al. discloses an image-forming apparatus, comprising:
an image-forming section that includes an optical-writing section (27, 29, 31, 41) to form an image; and
a circuit (400) for generating dot clock pulses for driving a light-emitting element employed in said optical-writing section included in said image-forming section; wherein said circuit includes,
a digital-delay dot clock adjusting section (410) to adjust timings of rising-edges or falling-edges of said dot clock pulses generated by changing a selection for a plurality of delayed-clock pulses, which are generated by delaying clock-pulses, outputted from a reference oscillator, in slightly different delay times, and
a controlling section (450) to control a selecting operation for said plurality of delayed clock pulses, performed in said digital-delay dot clock adjusting section, so as to compensate for unevenness of scanning-light

amount caused by an optical element employed in said optical-writing section; and

wherein said image-forming section performs an image-forming operation based on clock signals outputted from said digital-delay dot clock adjusting section.

With respect to claim 2, Takagi et al. discloses a circuit for generating dot clock pulses for driving a light-emitting element employed in an optical-writing section of an image-forming apparatus, comprising:

an index sensor (402) to detect a light-beam, which is emitted from said light-emitting element and is deflected for scanning by a light-scanning device employed in said optical-writing section, and to output an index signal when said index sensor detects said light-beam at an end portion of a main-scanning region scanned by said light-beam;

a delay-chain section (410) to generate a plurality of delayed-clock pulses by delaying clock-pulses, outputted from a reference oscillator (401), in slightly different delay times;

a synchronized clock pulse detecting section (420, 430) to select synchronized delayed-clock pulses, which are synchronized with said index signal, out of said plurality of delayed clock pulses generated in said delay-chain section (410) , and to output a number of delay-stages, which is derived from said synchronized delayed-clock pulses, as synchronizing information;

a table memory (210)to store scanning-light unevenness information, which represents unevenness of scanning-light amounts caused by an optical element employed in said optical-writing section;

a delayed-clock switching section (440) to generate a select signal, for selecting a specific delayed-clock pulse, having a phase suitable for compensating for said unevenness of scanning-light amount caused by said optical element employed in said optical-writing section, out of said plurality of delayed-clock pulses, based on said synchronized delayed-clock pulses and said synchronizing information outputted from said synchronized clock pulse detecting section and said scanning-light unevenness information stored in said table memory; and

a selector (450) to select said specific delayed-clock pulse out of said plurality of delayed-clock pulses in response to said select signal generated by said delayed-clock switching section.

With respect to claim 8, Takagi et al. discloses an image-forming apparatus, comprising:

an image-forming section that includes an optical-writing section (27, 29, 31, 41)to form an image; and

a circuit (400) for generating dot clock pulses for driving a light-emitting element employed in said optical-writing section included in said image-forming section; wherein said circuit includes:

an index sensor (402) to detect a light-beam, which is emitted from said light-emitting element and is deflected for scanning by a light-scanning device employed in said optical-writing section, and to output an index signal when said index sensor detects said light-beam at an end portion of a main-scanning region scanned by said light-beam;

a delay-chain section (410) to generate a plurality of delayed-clock pulses by delaying clock-pulses, outputted from a reference oscillator (401), in slightly different delay times;

a synchronized clock pulse detecting section (420, 430) to select synchronized delayed-clock pulses, which are synchronized with said index signal, out of said plurality of delayed clock pulses generated in said delay-chain section (410) , and to output a number of delay-stages, which is derived from said synchronized delayed-clock pulses, as synchronizing information;

a table memory (210)to store scanning-light unevenness information, which represents unevenness of scanning-light amounts caused by an optical element employed in said optical-writing section;

a delayed-clock switching section (440) to generate a select signal, for selecting a specific delayed-clock pulse, having a phase suitable for compensating for said unevenness of scanning-light amount caused by said optical element employed in said optical-writing section, out of said plurality of delayed-clock pulses, based on said synchronized delayed-clock pulses and said synchronizing information outputted from said synchronized clock pulse detecting section and said scanning-light unevenness information stored in said table memory; and

a selector (450) to select said specific delayed-clock pulse out of said plurality of delayed-clock pulses in response to said select signal generated by said delayed-clock switching section; and

wherein said image-forming section performs an image-forming operation based on clock signals outputted from said selector.

With respect to claims 6 and 12, Takagi et al. shows that said delay-chain section, said synchronized clock pulse detecting section, said table memory and said selector are digital circuits fabricated in an integrated circuit.

With respect to claims 3 and 9, Takagi et al. shows that said select signal is generated in said delayed-clock switching section by performing a calculating operation, based on said synchronized delayed-clock pulses outputted by said synchronized clock pulse detecting section and said scanning-light unevenness information stored in said table memory.

With respect to claims 4 and 10, Takagi et al. shows that said select signal is generated in said delayed-clock switching section by performing a table-converting operation, based on said synchronized delayed-clock pulses outputted by synchronized clock pulse detecting section and said scanning-light unevenness information stored in said table memory.

With respect to claims 5 and 11, Takagi et al. shows that said unevenness of scanning-light amount is a variation of light amount due to non-uniformity of reflectance and/or transmittance caused by said optical element.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan H. Tran whose telephone number

is (703) 308-0749. The examiner can normally be reached on M-F with Monday off, from 7:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Fuller can be reached on (703) 308-0079. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1749.

Huan H. Tran
Primary Examiner
Art Unit 2861

hht
9/22/03